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ABSTRACT

During the development of a dental assisting curriculum, a commitment was made to employ the DACUM (developing a curriculum) process as a foundation to the curriculum. Dental assistants and dentists met at three DACUM workshops to develop a definition of the dental assistant and an outline of clinical competencies in the form of tasks and duties specific to the dental assistant in New Jersey. Once the DACUM profile had been developed and reviewed, the product served as the basis for the development of instructional content and curriculum materials that focused on student attainment of the specified skills identified. These tasks were accomplished: project staffing, development of a curriculum materials format, establishment of an integrated sequence of instruction (a curriculum content outline), development of clinical competency statements, and development, review, and revision of materials for printing. (Appendixes include the dental assistant definition and DACUM outline developed in the workshops, the curriculum unit outline, and the DACUM performance matrix showing the relationship of DACUM performance elements to the curriculum unit outline.) (YLB)

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APPLICATION OF THE DACUM PROCESS IN ALLIED HEALTH EDUCATION: THE DEVELOPMENT OF A DENTAL ASSISTING CURRICULUM

Presented
by

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at the

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Introduction

The development of this dental assisting curriculum was undertaken as part of a sustained research activity conducted through the New Jersey Vocational-Technical Curriculum Laboratory, Rutgers University.* An establishment of need to support the development of this particular curriculum product was determined through the application of a curriculum needs assessment model (Wichowski, 1981).

Using a statewide approach in its' use, this five part curriculum needs assessment model was systematically applied to selected program areas during the 1980 academic year. An array of school and community based data were collected and later interfaced using a weighted formula to calculate rank-order listings of need within program areas examined. An inspection of these empirical findings by an executive level review team, composed of members of the New Jersey State Department of Education, resulted in the final identification of subject titles in need of curriculum development. Also contributing to this need was the timely passage of the New Jersey Dental Auxillary Practice Act (N.J.A.C. 13:30) which provided a statutory base for expanded functions of the dental assisting professional in New Jersey.

Statement of the Problem

Following this establishment of need, a proposal was developed to support the development of a dental assisting curriculum. It was at this time, through a review of literature and follow-up inquiries, that a commitment was made to employ the DACUM process as a foundation to this curriculum. DACUM is an acronym derived from the phrase "developing a curriculum" (Miller-Beach, 1980).

Although a basic understanding of the DACUM process as well as the procedures involved in setting up a DACUM workshop were determined at this time,

*The Statewide Curriculum Development Project is funded by the New Jersey Department of Education, Division of Vocational Education and Career Preparation. This project is delivered through the New Jersey Vocational-Technical Curriculum Laboratory, Rutgers University.

little information was available on the actual utilization of a DACUM produced competency listing for the development of curriculum materials per se. The problems addressed during this effort therefore included:

1. The determination of dental assisting clinical competencies through the use of the DACUM process.
2. The establishment of a curriculum unit outline using the clinical competencies identified.
3. The introduction of basic scientific skills and principles to the curriculum materials as they were developed.

Procedure

The major procedures followed during the development of the dental assisting curriculum have been listed in the following outline:

A. Conduct a DACUM workshop.
   1. Define the role of the dental assistant.
   2. Outline the performance elements of the dental assisting profession.
   3. Follow-up survey of workshop participants to validate materials developed.

B. Meet with state supervisors of health occupations education.
   1. Review curriculum product needs.
   2. Identify potential curriculum writers and advisory committee members.
   3. Establish advisory committee.

C. Staff project.
   1. Supervising editor.
   2. Curriculum writers.

D. Develop curriculum materials format.
   1. Review literature.

2. Draft and finalize format.

a. Interact with advisory committee members.

E. Train curriculum writers and establish a schedule for the development of materials.

F. Develop a curriculum unit outline using the DACUM outline.

G. Develop a Matrix showing the relationship of the DACUM performance elements to the curriculum unit outline.

H. Edit and type curriculum materials as they were produced.

I. Review of curriculum materials by advisory committee members.

J. Revise curriculum materials as needed.

DACUM

The DACUM Process was introduced as a relatively quick and inexpensive method of defining an occupation as well as producing a sequenced chart which outlines the competencies, tasks, and duties necessary to function within an occupation. These data serve as a matrix to either develop a curriculum, revise a curriculum, or evaluate a curriculum for an occupation.

DACUM was initially developed through a collaborative effort by the Experimental Projects Branch, Canada Department of Manpower and Immigration and the General Learning Corporation of New York (Adams, 1975). DACUM is based on three assumptions: (1) expert employees in an occupation can define and describe their job more accurately than anyone else, (2) any job can be effectively described in terms of the tasks that a successful employee in that occupation performs, and (3) that all tasks, in order to be performed correctly, require additional knowledge and information (Miller-Beach, 1980).

The chart produced through the DACUM Process is a group interaction product of approximately twelve experienced employees and supervisors in a single occupational area. Through the aid of a DACUM workshop leader and a recorder,

these representatives from business and industry reach consensus to define the occupation and to develop an outline of competencies, tasks and duties necessary to their occupation. This activity is completed within a time frame of approximately fifteen to twenty hours. This outline is indexed to entry level, advanced, and specialty skills within the occupational area. Utility is, therefore, possible for curriculum application on several educational levels, delivery system modes and at different points in time as appropriate to an individual's needs.

Only persons actually employed in the occupational area being addressed are permitted to serve as members of a DACUM workshop. Instructors, although allowed to observe, are barred from actual workshop participation. A task force of experienced instructors in a specific occupational area is later used to develop, revise or edit a curriculum based on the information developed during the DACUM workshop (Wichowski, 1982).

In order to apply the DACUM process to the development of a dental assisting curriculum, contact was made with the New Jersey Dental Assisting Association and the New Jersey Dental Association to request their assistance in the identification of workshop participants. Criteria used for the identification of dental assistants included: (1) their recognition as competent practitioners by their peers, (2) their collective representation of the various types of dental care delivery systems in the state, and (3) their representation of a sample which was geographically statewide.

Twelve dental assistants and three dentists met for three four-hour evening workshops to develop a definition of the dental assistant and an outline of clinical competencies in the form of tasks and duties specific to the dental assistant in New Jersey. This document was then reviewed for accuracy by workshop participants approximately two weeks later through a follow-up mailing. A copy of the document in its' final form is included in Appendix A.

Once the DACUM profile had been developed and reviewed, the product served as the basis for the development of instructional content and materials that focused on student attainment of the specified skills identified. As an assumption to this project, the tasks and duties included in the DACUM profile were viewed as standards for student skill demonstration. Further, it was also assumed that in order to achieve this purpose, it was necessary for the student to develop a foundation of conceptual knowledge and attitudinal skills relevant to the role of the dental assisting professional. It was necessary then to develop curriculum materials integrating the didactic and clinical learning experiences. The curriculum design was therefore organized to facilitate the transfer of conceptual knowledge and comprehension to professional application.

In developing the dental assisting instructional content and curriculum materials, the following tasks needed to be accomplished: (1) staff the project, (2) develop a curriculum materials format, (3) establish an integrated sequence of instruction, (4) develop clinical competency statements, and (5) develop, review, and revise materials for printing.

Staffing

Staffing requirements for this project included the establishment of an advisory committee, the identification of a graduate assistant who would serve as supervising editor and the recruitment of members of the curriculum writing team.

With the help of the program staff of the New Jersey State Department of Education, the following categorical areas were established for membership in the project advisory committee:

1. A member of the N. J. Dental Assisting Association.
2. A member of the N. J. Dental Association.
3. A member of the N. J. Department of Environmental Protection, Bureau of Radiation Protection.

4. A member of the N. J. State Department of Education who has allied health education background/responsibility.
5. At least two dental assisting instructors who are experienced at the post-secondary and the secondary level.

A graduate assistant was identified through a review of applicants in the Allied Health Education Program, Department of Vocational-Technical Education, Graduate School of Education, Rutgers University. As a requirement, this individual was to have a professional background as a dental assistant in New Jersey.

Curriculum writers were identified from a list of candidates supplied by the representative of the N. J. State Department of Education. Criteria for these persons included their recognized ability as superior classroom instructors, experience in various educational delivery systems and levels, and their geographic location from Northern and Southern portions of the State.

Curriculum Format

A set of common curriculum elements have been incorporated in the format of each unit in the dental assisting curriculum. These include an introduction, a unit objective, specific objectives, suggested instructional activities and resources, information sheets, assignment sheets, job sheets, line copy illustrations, and student progress charts. Each of these content elements are briefly described below:

1. Introduction. This element precedes each section to provide the student with a brief narrative introduction to the content of study.
2. Unit Objective. This is a measurable transformation of the terminal purpose of each unit of instruction.
3. Specific Objectives. These are measurable enabling objectives of the unit purpose. Student mastery of all specific objectives is

necessary to the achievement of the unit objective. The number of specific objectives varies with each unit of instruction.

4. Suggested Instructional Activities and Resources. Included on this sheet are listings of suggested instructional activities and instructional resources. These have been included as an aid to the instructor to guide the student in the achievement of the unit objective. The instructional resources provides a unit bibliography of a listing of books, films, filmstrips, and supplementary materials of instruction.
5. Information Sheets. These include the comprehensive content area of each unit of instruction in outline form.
6. Assignment Sheets. Included in each unit are student assignments relative to unit content. These assignment sheets may provide the instructor and the student with a method for formative evaluation of the cognitive objectives.
7. Job Sheets. These sheets are included in applicable units of instruction to provide evaluation of student performance objectives.
8. Line Copy Illustrations. Illustrations are included in applicable units of instruction. These may be used as transparency or student hand-out masters.
9. Student Progress Charts. Universal to each section is a student progress chart to aid in student progress recordkeeping.

Curriculum Content Outline

The preliminary task of the curriculum writing team and their supervising editor was to establish a sequence of instruction based on the content of the DACUM profile. The sequence of instruction developed was in the form of a curriculum content outline consisting of nine sections subdivided into units of instruction. These sections were sequenced using the rationale of providing the student

with a foundation of professional attitudes, scientific knowledge, and interpersonal skills for transfer to clinical application. A copy of the curriculum content outline produced through this effort is included in Appendix B.

Traditionally, the integration of didactic and clinical experiences is designed to provide the student with classroom theory prior to clinical experience. In the model developed by this team, integration was achieved by articulating both classroom theory and associated clinical experiences within the same time frame. Clinical activities were designed to complement theoretical instruction not only during the span of time covered by the section or unit of instruction but also immediately following the presentation of related theory. This integrated design thus provides the student with immediate exposure of theoretical classroom content to clinical application.

Articulation of the DACUM profile to the curriculum design provides the student with the opportunity to view and experience the interrelationship of the theoretical and clinical components of the dental assisting curriculum which may in turn be ascribed to the professional role. Content validity was established through the development of a matrix showing the relationship of DACUM performance elements to the curriculum unit outline. This activity provided an assurance of content validity to the unit outline and has been introduced as an integral part of the curriculum materials in their final form. A copy of the DACUM performance matrix is included in Appendix C.

Statements of Competence

It is well recognized among allied health educators that the goal of establishing professional standards is the provision of the highest possible quality of care for clients (Fromer, 1981). In allied health education, much effort has been based on the assumption that the escablishment of competency statements is imperative to the development and evaluation of the allied health curriculum as well as to the training and assessment of competent performance of the allied

health professional. By definition, competencies are the professional entry-level behaviors that the learner should, upon completion of a professional program, be able to perform independently (Ford, 1978). These behaviors then serve as a basis for the establishment of relevant curricular goals and objectives.

Based on this assumption, priority was placed upon the development and refinement of skills necessary in writing performance objectives. Training of the curriculum writers centered around the identification and deliniation of statements of competence in the dental assisting profession. A training workshop was held which provided an overview of the DACUM process as well as activities for the development of skills in writing objectives. The writing team had the opportunity to practice writing objectives which were checked for consistency in style among team members, conformity to the standards of quality educational objectives, as well as adherence to the professional philosophy and goals of the competent practitioner. In accordance with the integrated method used in the development of this curriculum, an objective sheet which listed both the terminal and enabling objectives was introduced to the beginning of each unit.

Materials Development Process

The actual development of the curriculum materials was done by the curriculum writing team coordinated by the supervising editor. In establishing curriculum content based on the DACUM profile, the writing team attended editorial meetings to discuss the potential content of each unit in relation to constraints facing them. Some of the constraining factors impacting on the potential content of the curriculum included: (1) project goals and timelines, (2) student characteristics at the secondary and post-secondary levels, (3) the potential employment settings of program graduates, (4) an acceptable curricular arrangement, (5) institutional requirements at the secondary and post-secondary levels, and (6) adherence to legislative, accreditation, and professional requirements.

Concurrently, with the passage of the New Jersey Dental Auxiliary Practice Act (N.J.A.C. 13:30), certain additional skills for the expanded functions of the dental assistant needed to be introduced to this curriculum.

Taking into account these and other factors, materials were written, edited, reviewed, and revised on a scheduled basis. Members of the writing team selected units, based on their individual preference, for development. Under the direction of the supervising editor, the curriculum materials submitted by the writing team were transformed to a second level rough draft stage and later given to advisory committee members for review and revision. Congruence of the curriculum design and role of the dental assisting professional was the goal of this committee. Following content revision in accordance with this educational and professional congruency inspection, the product was submitted for final printing.

Summary and Conclusion

The development of this dental curriculum was undertaken as part of a sustained research activity conducted through the New Jersey Vocational-Technical Curriculum Laboratory, Rutgers University. An establishment of need to support the development of this particular curriculum product was determined through the application of a statewide curriculum needs assessment. Following this establishment of need, a proposal was developed to support the development of a dental assisting curriculum. It was at this time that a commitment was made to employ the DACUM process as a foundation to this curriculum.

The problem addressed in the actual development of this curriculum included: (1) the determination of dental assisting clinical competencies using the DACUM process, (2) the establishment of a curriculum unit outline using the DACUM information, and (3) the introduction of basic scientific skills and principles to curriculum materials as they were developed.

The DACUM method employed a group interactive process involving a statewide representative sample of dental assistants and dentists in New Jersey. Developed through the consensus of this group was an outline of the clinical competencies, in the form of tasks and duties, specific to the dental assisting discipline. A curriculum format was selected for use in this project through a nationwide review of the literature.

The actual curriculum materials were developed by a team of writers experienced as dental assistant instructors at the secondary and post-secondary levels. Coordinating this team was a supervising editor who directed the integration of the basic sciences, clinical and administrative procedures as well as interpersonal skills in the curriculum using a continuous interactive process. Resulting from this effort was the development of a nine section performance based curriculum.

In conclusion, the processes utilized in this project could serve as an exemplary model and be applied to any discipline in Allied Health Education. The procedures followed in this developmental activity are documented within the text of this paper in order to allow replication by individuals experienced in curriculum development and having the appropriate Allied Health professional background.

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Appendix A

DACUM WORKSHOP PRODUCTS

DENTAL ASSISTANT
A DEFINITION AND DACUM OUTLINE

The following occupational definition and outline of job functions of Dental Assistants were developed through a DACUM workshop activity. This process involved a total of eleven dental assistants and three dentists in a group setting. Through such action, these persons reached consensus in order to define the occupation of dental assisting and to outline the tasks and duties necessary to function in that occupation

The twelve duty statements which compose the outline serve as major subdivisions of the occupation. Each duty is further composed of several distinct task elements. Tasks are necessary to the performance of a duty and consist of a series of activities with a common purpose that occur in close sequence. This outline has been organized around a hypothetical sequence of tasks and duties which a patient might encounter.

It should be noted that these materials were developed to represent the occupation of dental assisting as it existed in New Jersey in June 1981. Any application to other geographic settings and future points in time may, therefore, not be valid.

Occupational Definition of Dental Assistants

A dental assistant is a member of the dental health team who assists in the delivery and support of dental health care. The dental assistant is any person who is trained by formal education or office internship to perform, under the supervision of the dentist, any routine office procedure, not including an intra-oral procedure in the office of the dentist.

The Registered Dental Assistant must have two years practical experience within the last five years as well as being a Certified Dental Assistant and who may perform the intra-oral procedures as listed in N.J.A.C. 13:30.

DACUM Outline for Dental Assistants

A. Professional Ethics:

1. Interpret and apply laws
2. Exercising confidentiality
3. Personal appearance
4. Staff interplay
5. Office harmony

B. Office Manager/Receptionist:

1. Telephone contact
2. Appointment control
3. Buffer
4. Patient records (demographic, financial, clinical)
5. Filing system
6. Bookkeeping
7. Billing/Collection
8. Banking
9. Insurance forms
10. Recalls
11. Correspondence

C. Patient Contact:

1. Communication skills (verbal and non-verbal)
2. Interpersonal relationships
3. Health history (written and observable)
4. Vital signs
5. Office policy and procedures
6. Charting

D. Radiography:

1. State license
2. Visual inspection
3. Safety
4. Technique
5. Patient positioning
6. Equipment operation
7. Expose
8. Process
9. Mount

E. Chair Side Procedures:

1. Maintenance of Asepsis/Disinfecting
2. Room preparation
3. Patient records
4. Tray set up
5. Instrument and procedure preparation
6. Patient preparation
7. Patient communication

8. Vital signs
9. Patient observation
10. Diagnostic study models - RDA
11. Perform bite registration procedures to determine occlusal relationships of diagnostic models only - RDA
12. Intra and extra oral photo
13. Apply topical anesthesia and assist in administration of anesthetic - RDA
14. Four handed procedures
15. Rubber Dam Technique - RDA
16. Retraction
17. Oral evacuation
18. Place and remove matrices and wedges - RDA
19. Mixing materials
20. Post-op instructions
21. Patient clean up
22. Place amalgam and gold foil in a tooth for condensation by the dentist - RDA
23. Place temporary sedative restorations - RDA
24. Place and remove retraction cords - RDA
25. Cement temporary crowns and bridges after preparation of tooth and crown by dentist - RDA
26. Remove excess cement from crowns or other restoration and orthodontic appliances - RDA
27. Trial size orthodontic bands, wires, stainless steel crowns and temporary crowns intraorally - RDA
28. Prepare teeth for bonding - RDA
29. Remove arch wires and ligature wires - RDA
30. Place and remove periodontal dressings and other surgical dressings - RDA
31. Remove sutures - RDA

F. Emergency Procedures:

1. Emergency plan (physical/patient)
2. First Aid procedures
3. Basic life support

G. Sterilization:

1. Health and safety
2. Scrub instruments
3. Ultrasonic
4. Cold sterilization
5. Auto claving instruments
6. Dry heat sterilization
7. Storage and disbursement of instruments

H. Laboratory Procedures:

1. Safety
2. Pour, trim and mount models
3. Fabricate custom trays
4. Fabricate mouth guards
5. Fabricate bite rims
6. Investment and casting of inlays
7. Temporary splints
8. Denture repair
9. Orthodontic appliance fabrication
10. Soldering and welding orthodontic appliances

I. Patient Education:

1. Analysis of saliva and prepare smears
2. Nutritional advice/dietary analysis
3. Use of educational technology (A-V)
4. Preventive homecare instruction
5. Recall

J. Equipment Maintenance:

1. Emergency equipment
2. Operating equipment
3. Sterilization equipment
4. Darkroom equipment
5. Lab equipment
6. Office equipment

K. Inventory Control:

1. Record keeping
2. Dealer contacts
3. Cost control
4. Ordering supplies
5. Quality control
6. Shelf life
7. Storage

L. Maintenance of Environment:

1. Office safety
2. Opening and closing office
3. General housekeeping
4. Coordination of building services

NOTE: Several task elements in Section E, Chair Side Procedures, have an RDA designation following their listing. These relate to those intra-oral procedures specified in N.J.A.C. 13:30 which are to be performed by the Registered Dental Assistant.

Appendix B

CURRICULUM UNIT OUTLINE

CURRICULUM UNIT OUTLINE

SECTION A: ORIENTATION

Introduction:	Dental Assisting as a Career
Unit A-I	Career Orientation
Unit A-II	Ethics, Jurisprudence and the New Jersey Law
Unit A-III	Personal Health and Grooming
Unit A-IV	Communications and Interpersonal Relations
Unit A-V	Seeking Employment

SECTION B: DENTAL ADMINISTRATION

Introduction:	The Administrative Assistant in Dentistry
Unit B-I	Dental Reception Techniques
Unit B-II	Secretarial and Clerical Procedures
Unit B-III	Dental Accounting Procedures

SECTION C: THE TOTAL PATIENT

Introduction:	Treating the Total Patient
Unit C-I	Circulatory, Respiratory and Endocrine System
Unit C-II	Dental Therapuetics
Unit C-III	Emergency Procedures

SECTION D: DENTAL ANATOMY AND PHYSIOLOGY

Introduction:	Focus on the Head and Neck
Unit D-I	Orofacial Anatomy and Physiology
Unit D-II	Oral Embryology and Histology
Unit D-III	Tooth Morphology
Unit D-IV	Oral Pathology

SECTION E: PATIENT EDUCATION

Introduction:	The Importance of Regular Examinations
Unit E-I	Decay and Periodontic Disease
Unit E-II	Nutrition and the Digestive System
Unit E-III	Salivary Analysis
Unit E-IV	Preventive Home Care Instruction and Fluorides

SECTION F: DENTAL RADIOGRAPHY

Introduction:	The History and Purpose of Dental Radiography
Unit F-I	Patient Education in Radiography
Unit F-II	Radiographic Interpretation
Unit F-III	Radiation Hazards and Protection
Unit F-IV	Photography and Intraoral/Extraoral Radiography
Unit F-V	Darkroom Procedures
Unit F-VI	Radiographic Mounting: Interpreting and Correcting Faulty Radiographs

SECTION G: CHAIRSIDE ASSISTANCE

Introduction:	Chairside Dental Assisting
Unit G-I	Operative Dentistry
Unit G-II	Periodontics
Unit G-III	Oral Surgery
Unit G-IV	Periodontics
Unit G-V	Endodontics
Unit G-VI	Orthodontics
Unit G-VII	Prosthodontics

SECTION H: STERILIZATION

Introduction:	Importance and Purpose of Instrument Sterilization
Unit H-I	Microbiology
Unit H-II	Health and Safety
Unit H-III	Disinfection and Sterilization
Unit H-IV	Instrument Preparation, Storage and Disbursement

SECTION I: THE DENTAL LABORATORY

Introduction:	The Dental Laboratory: Rules and Regulations
Unit I-I	Fabrication Procedures
Unit I-II	Soldering, Investment and Casting Techniques
Unit I-III	Reparative Procedures

Appendix C

DACUM PERFORMANCE MATRIX

RELATIONSHIP OF DACUM PERFORMANCE ELEMENTS
TO CURRICULUM UNIT OUTLINE

Dacum Elements	Unit Elements
A. Professional Ethics:	
1. Interpret and apply laws	A-II
2. Exercising confidentiality	A-II, A-IV
3. Personal appearance	A-I, A-III
4. Staff interplay	A-I, A-II, A-IV
5. Office harmony	A-I, A-II, A-IV
B. Office Manager/Receptionist:	
1. Telephone contact	B-II
2. Appointment control	B-II
3. Buffer	A-1, A-IV, B-I
4. Patient records (demographic, financial, clinical)	B-II
5. Filing system	B-II
6. Bookkeeping	B-III
7. Billing/Collection	B-III
8. Banking	B-III
9. Insurance forms	B-III
10. Recalls	B-II
11. Correspondence	B-II
C. Patient Contact:	
1. Communication skills (verbal and non-verbal	A-IV
2. Interpersonal relationships	A-II, A-IV
3. Health history (written and observable)	C-I
4. Vital signs	C-I, C-II, C-III, C-III
5. Office policy and procedures	A-I, A-II, A-III, A-V
6. Charting	D-III
D. Radiography:	
1. State license	A-II
2. Visual inspection	F-II, F-VI
3. Safety	F-I, F-III
4. Technique	F-IV
5. Patient positioning	F-IV
6. Equipment operation	F-IV, F-V
7. Expose	F-IV
8. Process	F-V
9. Mount	F-VI
E. Chair Side Procedures	
1. Maintenance of Asepsis/Disinfecting	H-II, H-III, H-IV
2. Room preparation	G-I, G-II, G-III, H-IV
3. Patient records	B-II, C-I, G-I, G-II, G-III, G-IV, G-V, G-VI, G-VII

4. Tray set-up . . . . . .G-I, G-II, G-III, G-IV, G-V, G-VI, G-VII
5. Instrument and procedure preparation . . . . . G-I, G-II, G-III, G-IV . . . . . G-V, G-VI, G-VII, H-IV
6. Patient preparation . . .E-IV, G-I, G-II, G-III, G-IV, G-V, G-VI, G-VII
7. Patient communication . . A-IV, C-I, C-III, E-I, E-II, E-III, E-IV, F-I . . G-I, G-II, G-III, G-IV, G-V, G-VI, G-VII
8. Vital signs . . . . . C-I, C-II, C-III, G-III
9. Patient observation . . . . . A-IV, C-IV, C-V, E-I, E-II, E-III, E-IV . . . . .G-I, G-II, G-III, G-IV, G-V, G-VI, G-VII
10. Diagnostic study models - RDA . . . . . I-I
11. Perform bite registration procedures to determine occlusal relationships of diagnostic models only - RDA . . . . . G-VI, I-I
12. Intra and extra oral photo . . . . . F-IV
13. Apply topical anesthesia and assist in administration of anesthetic - RDA . . . . . G-I
14. Four handed procedures . . . G-I, G-II, G-III, G-IV, G-V, G-VI, G-VII
15. Rubber Dam Technique - RDA . . . . . G-V
16. Retraction . . . . . .G-I, G-II, G-III, G-IV, G-V, G-VI, G-VII
17. Oral evacuation . . . . . .G-I, G-II, G-III, G-IV, G-V, G-VI, G-VII
18. Place and remove matrices and wedges - RDA . . . . . G-I
19. Mixing materials . . . . . G-I, G-II, G-VII, I-I, I-II, I-III
20. Post-op instructions . . . . .G-I, G-II, G-III, G-IV, G-V, G-VI, G-VII
21. Patient clean up . . . . . .G-I, G-II, G-III, G-IV, G-V, G-VI, G-VII
22. Place amalgam and gold foil in a tooth for condensation by the dentist - RDA . . . . . G-I
23. Place temporary sedative restorations - RDA . . . . . G-I
24. Place and remove retraction cords - RDA . . . . . G-VII
25. Cement temporary crowns and bridges after preparation of tooth and crown by dentist - RDA . . . . . G-VII
26. Remove excess cement from crowns or other restoration and orthodontic appliances - RDA . . . . . G-VI, G-VII
27. Trial size orthodentic bands, wires, stainless steel crowns & temporary crowns intraorally - RDA . . . . . G-VI
28. Prepare teeth for bonding - RDA . . . . . G-I
29. Remove arch wires and ligature wires - RDA . . . . . G-VI
30. Place & remove periodontal dressings & other surgical dressings - RDA . . . . . G-IV
31. Remove sutures - RDA . . . . . G-III, G-IV

F. Emergency Procedures:

1. Emergency plan (physical/patient) . . . . . C-III
2. First Aid procedures . . . . . C-III
3. Basic life support . . . . . C-III

G. Sterilization:

1. Health and safety . . . . . H-II
2. Scrub instruments . . . . . H-III
3. Ultrasonic . . . . . H-III
4. Cold sterilization . . . . . H-III
5. Auto claving instruments . . . . . H-III
6. Dry heat sterilization . . . . . H-III
7. Storage and disbursement of instruments . . . . . H-IV

H. Laboratory Procedures:

1. Safety	I-I
2. Pour, trim and mount models	I-I
3. Fabricate custom trays	I-I
4. Fabricate mouth guards	I-I
5. Fabricate bite rims	I-I
6. Investment and casting of inlays	I-II
7. Temporary splints	G-VII
8. Denture repair	I-III
9. Orthodontic appliance fabrication	I-I
10. Soldering and welding orthodontic appliances	I-II

I. Patient Education:

1. Analysis of saliva and prepare smears	E-III
2. Nutritional advice/dietary analysis	E-II
3. Use of educational technology (A-V)	E-IV
4. Preventive homecare instruction	E-IV
5. Recall	B-II

J. Equipment Maintenance:

1. Emergency equipment	C-III
2. Operating equipment	G-I
3. Sterilization equipment	H-III, H-IV
4. Darkroom equipment	F-V
5. Lab equipment	I-I, I-II, I-III
6. Office equipment	B-I, B-II, B-III

K. Inventory Control:

1. Record keeping	B-II
2. Dealer contacts	B-II
3. Cost control	B-II
4. Ordering supplies	B-II
5. Quality control	B-II
6. Shelf life	B-II
7. Storage	B-II

L. Maintenance of Environment:

1. Office safety	B-I, F-III, H-II
2. Opening and closing office	B-I
3. General housekeeping	B-I
4. Coordination of building services	B-I

NOTE Several task elements in Section [illegible], Chair Side Procedures, have an RDA designation following their listing. These relate to those intra-oral procedures specified in N.J.A.C. 13:30 which are to be performed by the Registered Dental Assistant.